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What is claimed:

1. A method of determining whether a subject will respond to a treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy, the method comprising detecting the amount of CD33 in a biological sample from the subject, comparing the measured amount to a reference amount, wherein a modified measured amount compared to the reference amount is indicative that the subject will or will not respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

2. The method of claim **1**, wherein the modified measured amount is an increase in the measured amount.

3. The method of claim **1**, wherein the modified measured amount is a decrease in the measured amount.

4. The method of claim **2**, wherein the increase in the measured amount is indicative that the subject will respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

5. The method of claim **3**, wherein the decrease in the measured amount compared to the reference amount is indicative that the subject will not respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

6. The method of claim **2** or **4**, wherein the measured amount is CD33 high expression in the biological sample.

7. The method of claim **3** or **5**, wherein the measured amount is CD33 low expression in the biological sample.

8. The method of claim **2** or **4**, wherein the measured amount is CD33 low expression in the biological sample.

9. The method of claim **3** or **5**, wherein the measured amount is CD33 high expression in the biological sample.

10. A method of determining whether a subject will respond to a treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy, the method comprising detecting the presence or amount of CD33 expressing cells in a biological sample from the subject, comparing the measured presence or amount to a reference presence or amount, wherein a modified measured presence or amount as compared to the reference presence or amount is indicative that the subject will or will not respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

11. The method of claim **10**, wherein the CD33 expressing cells measured are cells with high CD33 expression.

12. The method of claim **10**, wherein the CD33 expressing cells measured are cells with low CD33 expression.

13. The method of claim **11**, wherein the measured presence or amount of cells with high CD33 expression is indicative that the subject will respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

14. The method of claim **12**, wherein the measured presence or amount of cells with low CD33 expression is indicative that the subject will not respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

15. A method of determining whether a subject will respond to a treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy, the method comprising detecting the presence or measuring the amount of cells with high expression of CD33 in a biological sample from the subject, wherein the presence of cells with high expression of CD33 or a high amount of cells with high expression of CD33 indicates that the subject will respond to the treatment for a neoplasia, neoplastic disorder, tumor, cancer or malignancy.

16. The method of claim **15**, wherein the method comprises detecting the presence of or measuring the amount of $CD33^{hi}$ myeloid cells in the biological sample.

17. The method of any preceding claim, wherein the method comprises detecting the presence or measuring the amount of classical or non-classical monocytes in the biological sample.

18. The method of claim **17**, wherein the method comprises detecting the presence or measuring the amount of classical monocytes in the biological sample.